

## **Remarks**

Claims 1-24 are pending in this application. By this amendment, claims 1 and 18-24 are amended. Reconsideration is respectfully requested.

Applicants gratefully acknowledge that the Office Action indicates that claims 2 and 7-24 recite allowable subject matter. However, based on the following amendments and Remarks, applicants respectfully submit that all claims are in condition for allowance.

The Office Action objects to claim 1 for informalities. By this amendment, claim 1 is amended to obviate this objection. Applicants respectfully request that the objection to claim 1 be withdrawn.

The Office Action rejects claims 1 and 3-6 under 35 U.S.C. §103(a) over Boon (U.S. Patent 4,992,685) in view of Zettler (U.S. Patent 5,600,190). This rejection is respectfully traversed.

The Office Action admits that Boon does not teach "a micro-actuator, per se, with the core comprising a ferromagnetic material deposited onto a substrate top surface," and relies on Zettler to provide the missing subject matter.

However, Zettler also does not disclose "a micro-actuator with the core comprising a ferromagnetic material deposited on a substrate top surface." Zettler only discloses a method for manufacturing a micromechanical motor based on electrostatic forces, and therefore, no ferromagnetic materials are disclosed in Zettler. See for example col. 1, lines 19-25. Therefore, neither Zettler nor Boon, either alone or in combination, disclose or suggest each and every feature of the claimed invention.

Furthermore, the device described in Zettler bears so little resemblance to that disclosed in Boon, that it is not clear how to implement the processes disclosed in Zettler to form the device disclosed in Boon.

For example, there is no teaching in Zettler which describes the formation of the coils or magnetic members required for the design of Boon. Zettler describes only micromechanical structures which rely on electrostatic forces to impart motion to the movable members. Therefore, one of ordinary skill in the art, when attempting to combine Zettler with Boon, would have no reasonable expectation of success. According to MPEP §2142, "To establish a *prima facie* case of obviousness... there must be a reasonable expectation of success."

Furthermore, the proposed modification of Boon with Zettler would change the principle of operation of Boon, because Boon discloses a magnetostatic motor, whereas Zettler discloses only processes directed toward an electrostatic motor. Therefore, the processes disclosed in Zettler are not capable of producing the device disclosed in Boon, without changing its principle of operation. According to MPEP §2143.01, "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Therefore, the teachings of Zettler and Boon would not render the claimed invention *prima facie* obvious.

Finally, the Examiner has provided no suggestion or motivation to combine the references, other than suggesting that the reduction in size would be advantageous. Boon makes no mention of the advantages of reducing the size of the reciprocating motor, for example by using semiconductor lithographic processing as described in Zettler. Similarly, Zettler makes no mention of any advantages accruing from manufacturing a motor according to the design set forth in Boon. Therefore, there is no suggestion or motivation found in the references themselves that would motivate one of ordinary skill in the art to combine the references. As noted in *In re Oetiker* (24 USPQ 2d, 1446), "There must be some reason, suggestion or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself."

Therefore, none of the three elements (motivation, reasonable chance of success, the references must teach all the claims limitations) required to establish a *prima facie* case of obviousness has been met. Accordingly, the Office Action has not made out a *prima facie* case of obviousness, and claims 1 and 3-6 are patentable over the cited references.

Based on the foregoing remarks, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-24 are respectfully solicited.

Should the Examiner believe that anything further is desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicants undersigned representative, at the telephone number set forth below.

Respectfully submitted,

Jaquelin K. Spong  
Agent for Applicants  
(866) 409-5788  
Reg. No. 52,241